Argonne NATIONAL LABORATORY

Intra-Laboratory Memo

10 May 2006

TO: Distribution

FROM: John Quintana, Associate Division Director – Mechanical and Interlock Systems

SUBJECT: RSS Responsible Engineer

REFERENCE: AES-MIS-MEM-2006-0001

A key aspect of our Radiation Safety Systems Policy is the role of the Responsible Engineer that is identified on the Configuration Control Work Permit (CCWP). The CCWP is the primary mechanism through which we authorize work on RSS components as well as the method by which verification signatures are collected to close out work throughout the APS complex.

The role of the Responsible Engineer is clearly stated on the form. In order to start work, the Responsible Engineer is required to approve/acknowledge that

1) Information (Specs, drawings, procedures, task, description, etc...) is adequate to safely complete the work.
2) The requested work is consistent with an approved design.
3) The Responsible Engineer concurs with the approval/validation checklist requirements.

In order to close out work, the Responsible Engineer is also required to verify that the validations are complete and also certifies that the device/system is ready to return to service.

All of the above responsibilities are effectively those of a technical engineering project manager or systems engineer who has the overall responsibility to insure that the work and validations are done correctly and in accordance with an approved procedure or protocol. The Responsible Engineer isn't necessarily responsible for developing the Information required to start work; however, he/she is responsible for insuring that the Information exists and is adequate for the task. Similarly the requirement that the requested work is consistent with an approved design implies that the Responsible Engineer has knowledge of the technical function of the component and its interfaces so that independent tasks performed on the component/system do not inadvertently result in unexpected consequences. *As a result, the Responsible Engineer isn't just responsible for an individual work task, he/she is responsible for the actual RSS component itself. For systems where different groups have responsibility over its subsystems, this can only be effectively done if each RSS component is assigned to an individual who takes over responsibility for its safe operation and coordinates any work on it.*

Furthermore, the Responsible Engineer insures that the work practice controls (i.e. procedures, checklists etc...) when executed properly insure that the device is ready when it is returned to service. The actual work is performed through the line management authority of the group who is responsible for a particular subassembly. For example, actuator repair work on photon shutters and movable stops might involve at a minimum two groups. SI will be involved to remove switches and secure the PSS or ACIS system while members of MOM or MED may be involved in performing the actuator repair. The quality of the finished work is certified by the relevant group leader(s) of the workers in accordance with required inspections and verifications. The Responsible Engineer coordinates the work function, and helps insure that the work and verifications are done correctly and in accordance with an approved protocol or procedure.

As we review our RSS processes, all RSS components under AES control will be assigned to groups or area functions and then line management will assign this role to individual personnel. Many of our shielding elements are effectively passive (shields, lead brick stacks, collimators, beam stops etc...). Other components such as shutters and ACIS stops are active and work on them presents a different level of complexity. As a result, AES is assigning the responsibility for all shutters on the experimental hall and front ends as well as the moveable stops in the accelerator complex to the SI group. SI will still rely on MOM, MED, SA etc... as appropriate to perform work, but the overall coordination responsibility will be with SI. SI has assigned the role of Responsible Engineer for shutters and moveable stops to Greg Banks. Greg has a great deal of experience with operations by working in several ASD groups and brings to the task a wealth of practical experience with the accelerator complex. He has accepted this responsibility and is in the process of acquiring the specific knowledge he needs to effectively undertake this role. Similarly, AES is assigning the responsibility of all passive shielding elements to Rod Salazar. This role includes all collimators, shields, labyrinths and static stops. Rod brings his vast experience as a Floor Coordinator to this equally important responsibility and he will similarly rely on the relevant APS groups for support. Responsible Engineers for other components will be assigned by line management before work is performed on them. During the shutdown work, Rod and Greg are working with the CCSM's to provide the required control on the work with the intent that they will take on the full responsibilties for their systems effective 1 June 2006.

I should mention as a final word the role of the CCSM. The CCSM's role was clarified in a memo dated March 11, 2004 by Bill Ruzicka where he clearly stated that the "the only official responsibility of the CCSM is the oversight of work on shielding components and, to the best of his ability, ensuring that there are no gaps in the work that could adversely impact the safety of operations at the APS". This oversight definition supercedes any other previous definition of the CCSM's responsibilities. While the Responsible Engineers have direct responsibility for making sure that the work is performed correctly for individual components/systems, the CCSMs have an overall oversight role and the responsibility to alert management to problems to the best of his/her ability so that issues can be resolved within a line management process.

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